

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	David Andrew Thomas	§	Art Unit:	2144
		§		
Serial No.:	10/681,243	§		
		§	Examiner:	J. Cloud
Filed:	October 9, 2003	§		
		§		
For:	Method and System for	§	Atty. Dkt. No.:	100202723-1
	Querying Information from a	§		(HPC.0501US)
	Switch by a Server in a	§		
	Computer Network	§		

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Commissioner for Patents

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APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37

Sir:

The final rejection of claims 1-22 is hereby appealed.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, L.P.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

Claims 1-22 have been finally rejected and are the subject of this appeal.

Date of Deposit:	<u>April 18, 2008</u>
I hereby certify that this correspondence is being electronically transmitted to the U.S. Patent Office on the date indicated above.	
<u>Ginger Yount</u>	
Ginger Yount	

IV. STATUS OF AMENDMENTS

No amendment has been filed in response to the rejections.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 1 recites a method for querying information from a switch (Fig. 1:110) by a first server (Fig. 1:130) of plural servers (Fig. 1:130, 140, 150) in a computer network, comprising:

extracting (Fig. 2:210), by the first server, connection information from an information packet transmitted to the first server (Spec., p. 18, ¶ [0042]);

determining (Fig. 2:215), by the first server, whether the first server is handling a connection associated with the information packet (Spec., p. 18, ¶ [0042]);

constructing (Fig. 2:220), by the first server, a query information packet when the first server determines that the first server is not handling the connection associated with the information packet, wherein the query information packet includes query information for a switch (Spec., p. 18, ¶ [0043]);

forwarding (Fig. 2:225), by the first server, the query information packet to the switch (Spec., p. 19, ¶ [0046]);

constructing (Fig. 2:230), by the switch, a response information packet, wherein the response information packet includes a secondary network address of a server that is handling the connection associated with the information packet (Spec., p. 19, ¶ [0047]); and

forwarding (Fig. 2:240), by the switch, the response information packet to the first server (Spec., p. 19, ¶ [0047]).

Independent claim 12 recites a system (Fig. 1:100) for querying a switch by a server in a computer network, comprising:

a first server (Fig. 1:130) of a plurality of servers (Fig. 1:130, 140, 150) for extracting connection information from an information packet transmitted to the first server (Spec., p. 18, ¶ [0042]), for determining whether the first server is handling a connection associated with the information packet (Spec., p. 18, ¶ [0042]), for constructing a query information packet when the first server determines that the first server is not handling the connection associated with the information packet (Spec., p. 18, ¶ [0043]), wherein the query information packet includes query information, and for forwarding the query information packet (Spec., p. 19, ¶ [0046]); and

a switch (Fig. 1:110), connected to the plurality of servers, for receiving the query information packet forward by the first server, for constructing a response information packet (Spec., p. 19, ¶ [0047]), wherein the response information packet includes a secondary network address of a server of the plurality of servers that is handling the connection associated with the information packet, and for forwarding the response information packet to the first server (Spec., p. 19, ¶ [0047]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Claims 1-22 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over U.S. Patent No. 7,000,027 (Hensbergen) in View of U.S. Patent No. 6,665,304 (Beck).**

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

A. Claims 1-22 Rejected Under 35 U.S.C. § 103(a) as Unpatentable Over U.S. Patent No. 7,000,027 (Hensbergen) in View of U.S. Patent No. 6,665,304 (Beck).

1. Claims 1-4, 6-8, 10-15, 17-19, 21, 22.

It is respectfully submitted that the obviousness rejection of claim 1 over Hensbergen and Beck is defective.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, a comparison of the subject matter of the hypothetical combination of Hensbergen and Beck and the claimed subject matter would reveal that Hensbergen and Beck provide teachings that are significantly different from the claimed subject matter. As conceded by the Examiner, Hensbergen fails to disclose a response information packet that includes a secondary network address of a server that is handling the connection association with the information packet. 11/16/2007 Office Action at 3. However, the Examiner incorrectly cites Beck as disclosing the claimed subject matter missing from Hensbergen. *Id.*

Specifically, the Examiner cited column 6, lines 1-17, of Beck. The cited passage of Beck refers to a receiver application in a chosen destination processor node acknowledging a new connection by copying the content of an incoming packet header into a header of an outgoing data packet. Beck, 6:1-4. The receiver application of the chosen destination processor node sends the outgoing data packet back to the source application (of the source processor

node) to acknowledge the new connection request originally sent by the source processor node. *Id.*, 6:9-14. A destination processor node acknowledging a new connection request from a source processor node, as taught by Beck, hardly constitutes the following subject matter of claim 1:

- constructing, by the **switch**, a response information packet, wherein the response information packet includes a secondary network address of a server that is handling the connection associated with the information packet; and
- forwarding, by the **switch**, the response information packet to the first server (which has determined that the first server is not handling the connection associated with the **information packet**).

As a first note, the destination processor node of Beck cannot constitute the switch of claim 1. Therefore, whatever message is sent by the destination processor node cannot constitute the response information packet of claim 1. Moreover, claim 1 specifically recites that the switch forwards the response packet to the first server that has determined that the first server is not handling the connection associated with the information packet. A destination processor node acknowledging a new connection request from a source processor node cannot constitute the forwarding of such a response information packet by the switch to the first server, as recited in claim 1.

In view of the foregoing, it is clear that even if Hensbergen and Beck could be hypothetically combined, the hypothetical combination would not have led to the claimed subject matter.

Moreover, there existed no reason that would have prompted a person of ordinary skill in the art to combine the teachings of Hensbergen and Beck to achieve the claimed invention. In Hensbergen, a first node (node A) is able to parse a request from a client and to determine that node B, instead of node A, should handle the request. Hensbergen, 7:23-24. In response to such

determination, node A commences a handoff to establish a new connection with node B. *Id.*, 7:24-27. Next, node A sends a handoff request to a switch, which splices the first and second connections. *Id.*, 7:37-38. The switch then sends an FIN packet to node A so that node A will close its end of the connection with node B. *Id.*, 7:40-42. The FIN packet is actually a TCP (transmission control protocol) packet that includes a TCP header with an FIN flag set to a “1” state. The TCP header format and an explanation of the FIN flag is provided on pages 14 and 15 of the TCP specification, RFC 793, entitled “Transmission Control Protocol,” dated September 1981 (attached hereto). As explained by RFC 793, when the FIN flat is set, that indicates that no more data is expected from the sender. A person of ordinary skill in the art clearly would **not** have expected that an FIN packet as defined by the TCP specification would include a “secondary network address of a server that is handling the connection associated with the information packet.”

More importantly, in the procedure described in Hensbergen, node A has already established a connection with node B **prior** to node A sending a handoff request to the switch. Therefore, based on such a procedure, a person of ordinary skill in the art would have recognized that there would have been absolutely **no need** to send a “secondary network address of a server that is handling the connection associated with the information packet” in the FIN packet sent from the switch to node A.

In other words, the teachings of Hensbergen would have led a person of ordinary skill in the art away from the claimed subject matter, rather than towards it. This provides objective evidence that no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Hensbergen and Beck to achieve the claimed invention. *See United*

States v. Adams, 383 U.S. 39, 52 (1966) (holding that a claimed invention is non-obvious since prior art led away from the claimed invention).

In view of the foregoing, it is respectfully submitted that the obviousness rejection of claim 1 and its dependent claims over Hensbergen and Beck is defective.

Independent claim 12 and its dependent claims are similarly allowable over Hensbergen and Beck.

Reversal of the final rejection of the above claims is respectfully requested.

2. Claims 5, 16.

Claim 5 depends from claim 1, and is therefore allowable for at least the same reasons as claim 1. Moreover, claim 5 recites that the query information requests from the switch an address of a server of the plurality of servers that is handling the connection associated with the information packet. Note that according to Hensbergen, node A has already established a connection with node B (the node identified by node A as the proper node to handle the request). Hensbergen, 7:23-47. Therefore, there would have been absolutely **no need** whatsoever for node A to submit query information to request from the switch an address of a server of the plurality of servers that is handling the connection associated with the information packet, since node A in Hensbergen is already aware of the address of node B.

This is a further reason that claim 5 is allowable over Hensbergen and Beck.

Claim 16, which depends from claim 12, is similarly further allowable over Hensbergen and Beck.

Reversal of the final rejection of the above claims is respectfully requested.

3. Claims 9, 20.

Claims 9 and 20 depend from independent claims 1 and 12, respectively, and are allowable for at least the same reasons as corresponding independent claims.

Moreover, claim 9 recites extracting, by the first server, the secondary network address from the response information packet (forwarded by the switch), and forwarding the information packet to the secondary network address of the server of the plurality of servers that is handling the connection associated with the information packet. In Hensbergen, since node A is already aware of the address of node B, the extracting of the secondary network address from the FIN packet would be completely unnecessary. This is a further indication that the subject matter of claim 9 and 20 is allowable over Hensbergen and Beck.

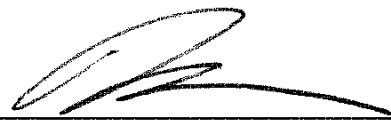
Reversal of the final rejection of the above claims is respectfully requested.

CONCLUSION

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

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VIII. APPENDIX OF APPEALED CLAIMS

The claims on appeal are:

- 1 1. A method for querying information from a switch by a first server of plural servers in a
2 computer network, comprising:
3 extracting, by the first server, connection information from an information packet
4 transmitted to the first server;
5 determining, by the first server, whether the first server is handling a connection
6 associated with the information packet;
7 constructing, by the first server, a query information packet when the first server
8 determines that the first server is not handling the connection associated with the information
9 packet, wherein the query information packet includes query information for a switch;
10 forwarding, by the first server, the query information packet to the switch;
11 constructing, by the switch, a response information packet, wherein the response
12 information packet includes a secondary network address of a server that is handling the
13 connection associated with the information packet; and
14 forwarding, by the switch, the response information packet to the first server.
- 1 2. The method of claim 1, comprising the step of:
2 forwarding the information packet to the first server from the switch.
- 1 3. The method of claim 1, wherein the first server modifies a header of the query
2 information packet to include the query information for the switch.
- 1 4. The method of claim 1, wherein the query information is included in a payload of the
2 query information packet.
- 1 5. The method of claim 1, wherein the query information requests from the switch an
2 address of a server of the plurality of servers that is handling the connection associated with the
3 information packet.

1 6. The method of claim 1, wherein the switch searches connection information to determine
2 the secondary network address of the server that is handling the connection associated with the
3 information packet.

1 7. The method of claim 1, wherein the response information packet includes the secondary
2 network address in an ethernet source address field of a header of the response information
3 packet.

1 8. The method of claim 7, wherein the response information packet includes the query
2 information from the query information packet.

1 9. The method of claim 1, comprising the step of:
2 extracting, by the first server, the secondary network address from the response
3 information packet; and
4 forwarding the information packet to the secondary network address of the server of the
5 plurality of servers that is handling the connection associated with the information packet.

1 10. The method of claim 1, wherein the information packet is a transmission control protocol
2 (TCP) protocol data unit (PDU).

1 11. The method of claim 1, wherein the information packet is a user datagram protocol
2 (UDP) protocol data unit (PDU).

- 1 12. A system for querying a switch by a server in a computer network, comprising:
2 a first server of a plurality of servers for extracting connection information from an
3 information packet transmitted to the first server, for determining whether the first server is
4 handling a connection associated with the information packet, for constructing a query
5 information packet when the first server determines that the first server is not handling the
6 connection associated with the information packet, wherein the query information packet
7 includes query information, and for forwarding the query information packet; and
8 a switch, connected to the plurality of servers, for receiving the query information packet
9 forward by the first server, for constructing a response information packet, wherein the response
10 information packet includes a secondary network address of a server of the plurality of servers
11 that is handling the connection associated with the information packet, and for forwarding the
12 response information packet to the first server.
- 1 13. The system of claim 12, wherein the switch is configured to forward the information
2 packet to the first server.
- 1 14. The system of claim 12, wherein the first server is configured to modify a header of the
2 query information packet to include the query information for the switch.
- 1 15. The system of claim 12, wherein the query information is included in a payload of the
2 query information packet.
- 1 16. The system of claim 12, wherein the query information requests from the switch an
2 address of a server of the plurality of servers that is handling the connection associated with the
3 information packet.
- 1 17. The system of claim 12, wherein the switch is configured to search connection
2 information to determine the secondary network address of the server that is handling the
3 connection associated with the information packet.

1 18. The system of claim 12, wherein the response information packet includes the secondary
2 network address in an ethernet source address field of a header of the response information
3 packet.

1 19. The system of claim 18, wherein the response information packet includes the query
2 information from the query information packet.

1 20. The system of claim 12, wherein the first server is configured to extract the secondary
2 network address from the response information packet, and to forward the information packet to
3 the secondary network address of the server of the plurality of servers that is handling the
4 connection associated with the information packet.

1 21. The system of claim 12, wherein the information packet is a transmission control protocol
2 (TCP) protocol data unit (PDU).

1 22. The system of claim 12, wherein the information packet is a user datagram protocol
2 (UDP) protocol data unit (PDU).

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.